

SYSTEM AND METHOD FOR GENERATING A VISUALIZED DATA  
REPRESENTATION PRESERVING INDEPENDENT VARIABLE  
GEOMETRIC RELATIONSHIPS

**Abstract**

5        A system and method for generating a visualized data representation preserving independent variable geometric relationships is described. A pair of convex clusters are selected. Each convex cluster is rendered on a display. Each convex cluster has a center of mass located at an original fixed distance from a common origin, and is oriented along a vector formed at a fixed angle from a  
10      common polar axis. A span is measured between the centers of mass of each convex cluster. For each convex cluster, a segment is measured from the center of mass of each convex shape to a point closest to the other convex shape along the span. A new fixed distance from the common origin for the center of mass for one of the convex clusters located along the vector for that convex cluster is  
15      evaluated if the span is less than the sum of the segments of the convex clusters. The pair of convex clusters are displayed rendered using at least the new fixed distance for the center of mass of the one convex cluster.